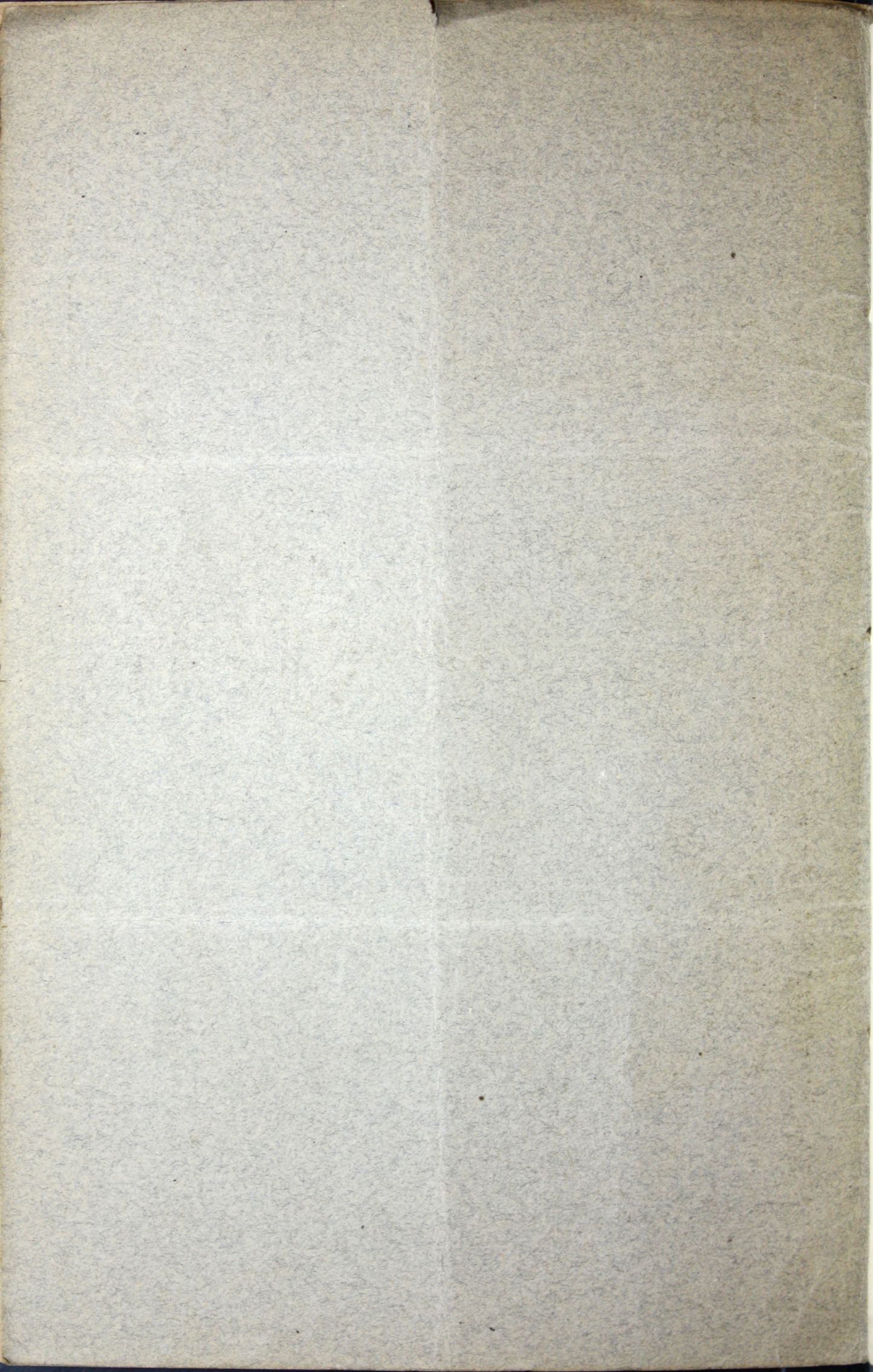


621.35-1.3 IV

THE SALOM LIGHTING AND POWER SYSTEM

THE MIGHTY CATARACT COULD
NOT SERVE YOU BETTER





HOW THE IMPELLING
FORCE OF ELECTRIC
ENERGY IS APPLIED

To The Farm



NIAGARA LEAD & BATTERY CO.
NIAGARA FALLS, N. Y. U. S. A.

Wal 3538

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ANY, many years ago there was a scholarly man who discovered that an unseen, mystical force could be developed by simply rubbing a piece of amber briskly on a piece of cloth. The force thus created was strong enough to attract light bodies. This really was the beginning of the development of a power, a tremendous energy which is today literally moving and lighting the world—electricity. For centuries this wonderful power lay sleeping like a great dormant giant, until the master minds of later days began their experiment and development. Little did those men of centuries ago realize, little did they even dream, that in this day and age electricity would be an all-ruling power. Step by step the science of man has conquered, and year after year electricity has spread its influence until it has long

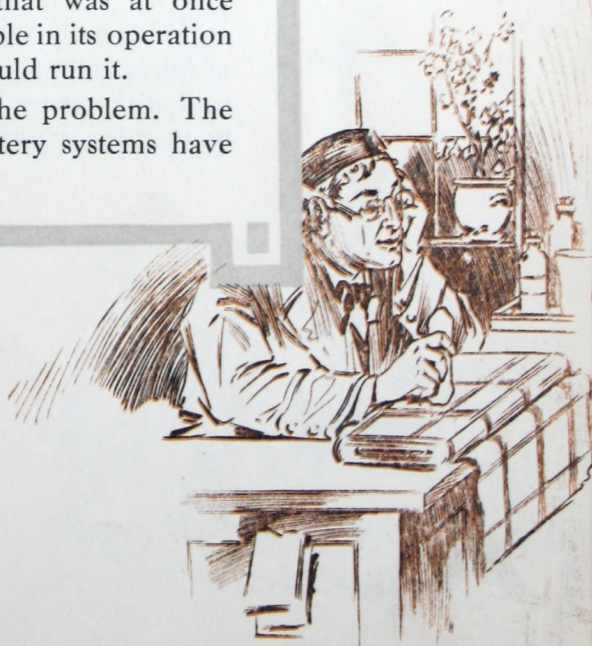
ago ceased to be a mystery or a curious uncontrolled power, but rather the necessity of an enlightened age.

We are all more or less familiar with the coming of the electric light, the motor, the trolley car, the wireless telegraph and the harnessing of the mighty cataract of Niagara and other water forces for the development of this marvelous power, but with all the brains and energy expended by the scientists, the perfection of a storage battery system for the furnishing of power and light for suburban homes, farms and other institutions in the so-called isolated districts, has been but a recent achievement.

For thirty years or more, effort has been made to perfect such a system, but not until the introduction of the Salom Storage Battery has there been a system that was at once economical, dependable, practical and so simple in its operation and upkeep that the ordinary man or boy could run it.

The Salom Storage Battery has solved the problem. The difficulties of all other types of storage battery systems have

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been overcome by the master minds that have developed and perfected the Salom System.

The greatest features of the Salom System are: It is practical. It is simple. It is economical. It is safe. It is dependable; and its complete cost is so low that the farmer of modest means can have it; in fact, the modern farmer can not afford to be without it. Do you realize what it would mean to have electric lights in your home, in your barn, in all the farm buildings where light is necessary or desirable? Do you appreciate the satisfaction and comfort such a service would give to every member of the household?

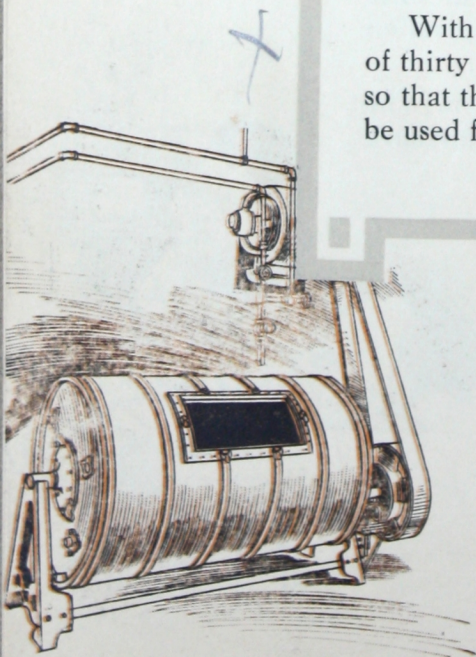
The Salom System makes such a service not only possible, but practical. And were there no other considerations it should appeal to you from an economical standpoint, for with this system you can generate your own lights at a cost far below the rate the city man has to pay. Think of it! A system that will not only furnish you electric lights, but will furnish you electric power—and lots of it—to run motors to do all sorts of tasks about the farm at a trifling expense. It is the greatest achievement of modern power development.

The service obtained from the Salom System is equal and in many cases superior to that furnished by local lighting companies and the battery is of ample capacity to furnish power for supplying twenty Tungsten lights for eight hours on one charge. This is power enough to supply the average home with light for an entire week without recharging the battery.

The Salom Lighting Outfit consists of a one-horse power gasoline engine belted to a direct-current dynamo or generator, to charge the batteries; a switchboard and a Salom Battery of fifteen cells (see illustration on next page).

With each outfit is supplied a large heavy steel water tank of thirty gallons capacity, heavily galvanized inside and outside so that the water heated by the engine when in operation can be used for washing clothes, for family baths or any purpose

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for which hot water is desired. If the engine is used to heat the water for domestic uses it will be found that it will be almost sufficient to keep the battery charged with enough power to operate the lights.

It is indeed a long step from the days of the tallow dip or even the smelly, dangerous kerosene lamp to the electric light. With the Salom Battery System, electric light is available at all

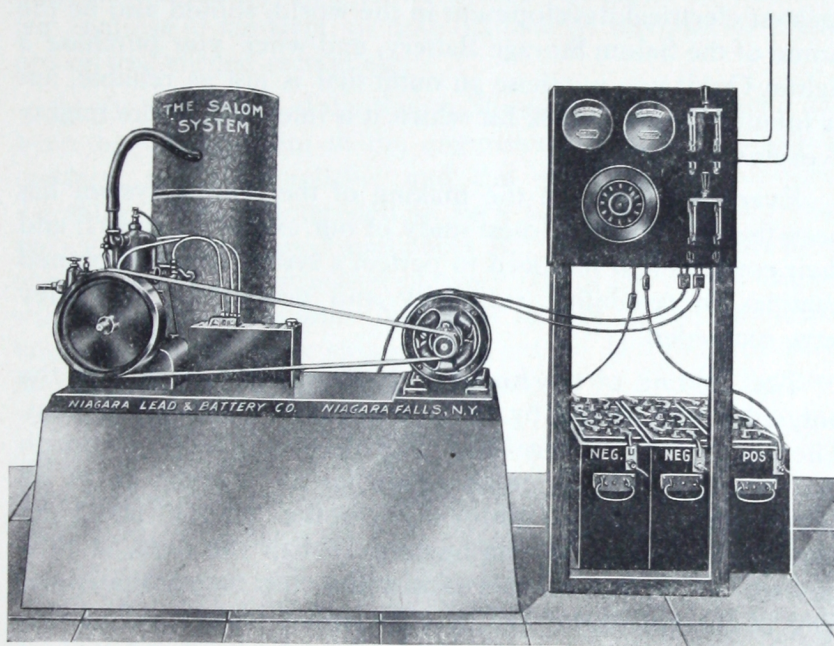
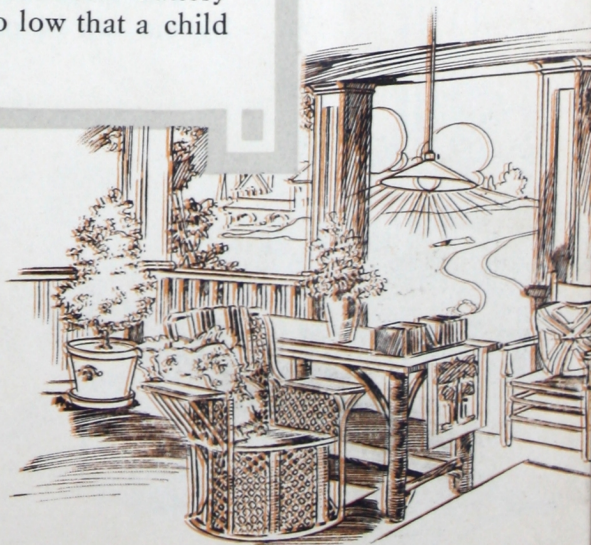


ILLUSTRATION SHOWING COMPLETE SALOM OUTFIT.

times during the day or night. By simply turning a button, the sitting room, the kitchen, the bed room, the cellar, the stable or the grainery is flooded with a brilliant white light that is always steady—that is always certain. There is no danger of fire; no possibility of a lamp being upset or exploding. One of the many redeeming features of the Salom Battery System is its positive safety. The voltage is so low that a child

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could hold the bare wires in each hand and not be injured in the slightest. It is, in fact, the most satisfactory system of its kind ever devised.

The plant of the Niagara Lead and Battery Company, the manufacturers of the Salom Battery System, is located at Niagara Falls, within a stone's throw of the great power houses. It is indeed a coincidence that Niagara Falls, the center of the greatest electrical development in the world, should also be the home of the Salom Storage Battery, and when you purchase a Salom Outfit you purchase an outfit that is just as reliable, just as infallible for the work for which it is intended, as the mighty ever-flowing cataract.

Every little detail in the making of the Salom System has been the result of the closest study of our expert engineers, and their constant aim has been to perfect a system of the combined qualities of reliability, simplicity and economy. And they have succeeded.

The lighting of the home and other buildings is not the only advantage gained by the installation of the Salom System. The battery which is furnished with the outfit is large enough to operate a one-horse power motor for six or seven hours on one charge. With this motor many of the "chores" about the farm or suburban home can be done in half the time, at little expense and with far more satisfaction than any other way. Any of the routine work from pumping water and sawing wood to running a separator can be done by the hired man or boy of the family. The housewife can run her sewing machine, grind her kitchen knives, polish the silver, freeze ice cream, run electric fans, operate the churns or washing machine, and a dozen or more other every-day tasks with the little motor and a few inexpensive attachments. The motors cost but little and can be attached to any of the electric light sockets.

This gives some idea of the many uses to which the Salom System can be put. It not only furnishes light, but it creates



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and gives the power to lift the life on the farm in the suburban districts from out of the realm of every-day monotony and drudgery. The economy of such a service can not be overlooked, for it is evident that by shortening the time usually spent in routine tasks the farm hands can have many more hours for more productive work. Think of the saving in labor this system can accomplish. Think of the saving in time—time that can be devoted to work that will mean so much in the earnings of the farm; or time that can be devoted to pleasure or well-earned recreation.

In the perfection of the Salom Storage Battery System it has been the constant aim of the engineers to use only the most modern, the most reliable and the most practical devices. To those who are interested in such a system, the fact that only the most approved appliances and the best materials have entered into the construction of every one of the Salom Outfits will have much weight. No other storage battery manufacturers have gone to the expense and trouble in supplying such mechanically perfect details as are found in the Salom System. For instance, in the Salom System a water-cooled engine is used. An air-cooled engine would have been cheaper to manufacture, but elaborate tests have proven that it is not as good as the water-cooled.

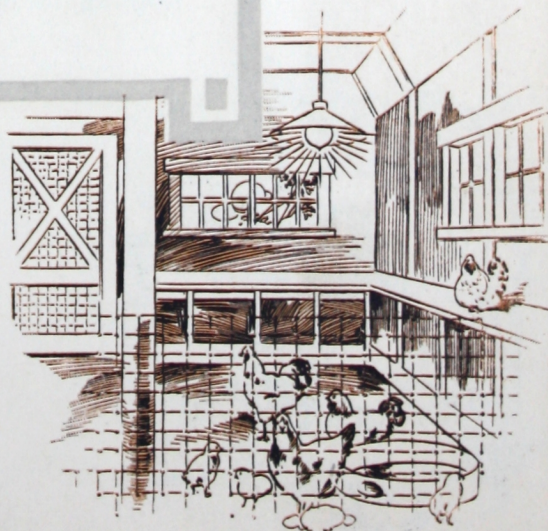
Oil and grease cups could be bought for a fraction of the cost of the automatic force feed oiler with which the Salom System is equipped, but the latter gives the surest lubricating service.

The unreliability of gasoline mixing valves is a well known mechanical fact and that is why the Salom System does not use them, but has, instead, the latest and the most approved float feed carburetors.

A small tin cooling tank would be cheaper than the Salom heavy reinforced galvanized steel tank, but it has no place in the Salom System.

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A wooden base upon which to place the apparatus would be far cheaper to the manufacturer than the iron base as used in the Salom System, but not as satisfactory or as permanent.

Then, again, spliced leather belts would not cost the manufacturer a fraction as much as the endless belts with which the Salom System is fitted, but the purchaser is spared the trouble and expense of patching broken belts, bothering with hooks and lacing and countless other complications that come with cheaper belts.

The manufacturer would realize a greater profit if the generator was mounted directly on an iron base instead of an additional heavy iron base as are the Salom generators, but that is not the way the Salom System is constructed. The gasolene tank instead of being connected to the engine with cheap, stiff iron pipe, in the Salom System is connected with copper pipe which can be bent to any desired location or shape and will stand vibration without leaking at the joints.

The Salom Battery, the heart of the whole system, is assembled in the very best of hard rubber jars and each battery is charged and thoroughly tested before it leaves the factory, so that it is ready for use the minute the purchaser receives it. It could be shipped knocked down to be assembled by the purchaser, but he is spared all this work and worry.

The switchboard is equipped with one volt meter, one ampere meter, the necessary rheostat for regulating the voltage and the necessary switches for the successful operation of the system. Nothing is used but the best quality of black slate with all of the wiring completed in our factory. The instruments are of the very best and the switches are extra heavy and large enough to carry three times the load that they will be called upon to deliver. All of the wiring is complete and the connections between the switchboard and the battery and the switchboard and the generator are all made, and there is nothing for the purchaser to do after he receives the system



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but to push the connections together. It is impossible to make wrong connections in setting up the system as it is impossible to fit the wrong wires together, the connectors being made of different sizes and colors in each case. By following the instruction sheet, sent with each outfit, any man or boy can intelligently install the system. There is no need for mechanical or electrical experience.

The work of manufacturing the different parts of the Salom System has been so carefully and intelligently done before it leaves the factory, that there is no need for even a screw-driver in setting up the system. There are no wires to solder, no bolts to loosen, no fussing with intricate mechanical parts—in fact there is nothing to be done but to push the friction plugs together.

The Salom System can be installed in the cellar or upon any level floor. There is no need for a special or costly foundation to be built, as the different sections of the outfit are already mounted upon a proper, secure base. All that is necessary is the fastening to the floor anchor bolts to hold the base firmly in position. Even the bolts are furnished, and the outfit is received ready to run, complete in every detail with the exception of the gasolene supply for the engine.

Now just a word or two regarding some of the other strong features of this wonderful system.

THE IGNITION

The celebrated Pfanstiehl water-proof coils, which are guaranteed for five years against any grounding or defects—a coil that is one of the highest priced spark coils on the market and has a national reputation for its service, as well as the highest grade spark plug that we can purchase, made with specially prepared porcelains that will not crack from the heat, are used in the Salom System.

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The spark coil is located in an iron box directly under the engine and all the wires are fastened permanently to the iron, making the most reliable and satisfactory ignition service furnished with any engine on the market today.

THE GENERATOR

The generator used with the Salom System is an extra heavy wound generator capable of furnishing 40 volts at ten amperes continuously on twenty-four hour service without raising the temperature forty degrees above normal. The commutator is extra heavy and the brushes are connected with flexible copper connectors to the brush-holders, reducing the resistance of the circuit to a minimum. This can be run at an overload of 50 per cent for two hours without any damage. It has been specially designed to operate with our engine.

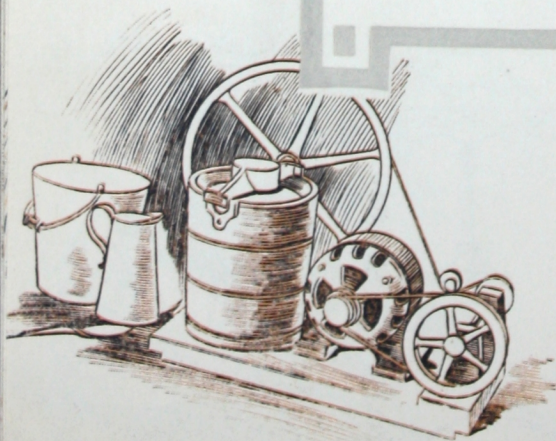
THE ENGINE

The engine which our engineers have designed has proven the best for the purpose. The oiling system, which is absolutely automatic, has been adopted by all of the leading automobile manufacturers as the only satisfactory way of oiling the gasoline engine.

The oiling of an internal combustion engine is the most important point to be considered, because failure of the oiling system is liable to ruin the cylinder.

We have found that there is only one system to be considered where reliability of service is the point above all others to be considered. The force feed lubricator is absolute because it forces the oil under pressure to the different bearings. When the engine is idle the oil stops flowing. *No oil cups to shut off and readjust every time your engine starts*, or every time the temperature changes.

The Salom engine has less parts than any other gasoline engine of its size on the market, and is believed to be the only small engine equipped with automatic oiling system.



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One or two turns of the fly-wheel will start the Salom engine and then all the attention it requires is to supply gasoline and lubricating oil as needed. Once started, it keeps right on going until you stop it or the fuel runs out.

This simply designed engine makes it possible to examine or replace any of the vital parts, crank shaft, piston or rings by simply taking out a few screws in the flange and lifting the cylinder off.

There are no adjustments to make, nor are any special tools needed. A screw-driver and a wrench will do the work. This leaves all parts exposed to view for examination.

CONNECTING RODS

The connecting rods are made of a special mixture of hard bronze. This is done to obtain the best of bearings and to insure perfect alignment and they are accurately bored at both ends.

The crank end is fitted with adjusting screws, which is provided with a positive lock. The piston end is solid and both bearings are fitted with the proper oil facilities.

THE CRANK SHAFT

The crank shaft is of one piece high carbon steel, of exceedingly large diameter with extra long bearings.

THE BEARINGS

The bearings are made of a special bronze, cast and driven into the engine base. To replace the bearings on one of our engines will require but a few minutes time and no tools except a hammer and small block of wood.

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THE COMMUTATOR

One of the most important parts entering into the construction of a gasolene engine is the commutator; its failure of explosion causes the stopping of the engine. Our engine has a lever secured to the shaft and is fitted with a flat spring, which slides on a hard fibre ring, fastened to the fly wheel, together with the segment. This not only makes a positive contact but is durable.

THE CYLINDERS

Our cylinders are cast from the very best grade of materials. A special mixture of charcoal iron is used in connection with a particularly fine sand. This produces an exceptionally close grained, gray iron casting which is remarkable for its smoothness and fine quality.

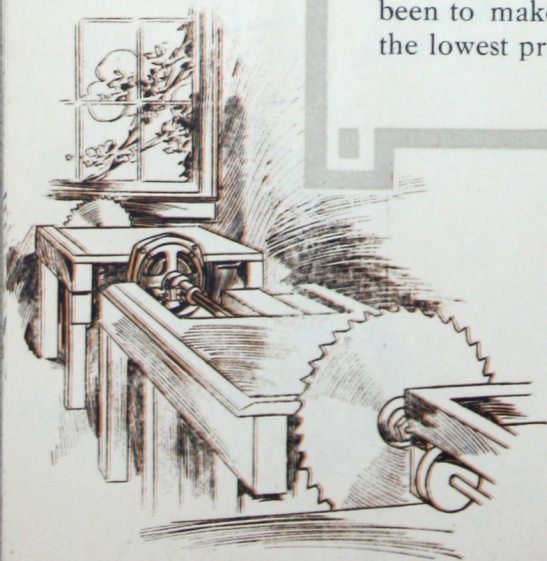
THE PISTON

The piston is cast of the same mixture of metal as the cylinder. This is important so that the expansion of each is the same. This allows for a very close fit and high compression. The piston is of the trunk type with three rings and oil grooves

THE BASE

It is of extreme width and ribbed so as to provide a solid side support for the engine.

From the above descriptions it will be seen that only the best of materials, the most approved methods, mechanically perfect devices and infinite care and the best efforts of trained men have entered into the Salom System. These have brought about the perfection of a system that is absolutely guaranteed as to its reliability, durability, simplicity and practical economy. The aim of the men responsible for the Salom System has not been to make the highest priced outfit, but just the opposite, the lowest price, quality considered.



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THE LIGHTING SYSTEM

In figuring the lighting system, always note the size and make of the storage battery. The Salom Battery with our system is large enough to operate *twenty 16-candle power Tungsten lights on one charge for eight hours*, ten lamps for sixteen hours, or five lamps for forty hours on one charge.

Note the size battery furnished with some of the small so-called battery systems. The battery supplied with most of the systems is estimated to burn five 16-candle power lamps for two and three-fourth hours. Just think of it, not enough capacity to operate the lights in an average home *one night* without running the engine. And the Salom System is absolutely guaranteed to operate *five lights forty hours* on one charge, *fourteen times* more capacity than that furnished with any other battery system.

THE SALOM SERVICE

The greatest inconvenience encountered by the users of other systems has been that they could not secure any power or light unless the engine was running. With the Salom System it is different. The engine can run but a few hours during the day and during that time it stores up enough energy in the batteries to run the lights for several nights or to run the motors for six or eight hours. There is no danger of being without power should the engine be out of commission because of minor repairs being made. The electric energy is stored up in the batteries—it is there for use at all times during the night or day.

At night you do not undergo the nerve-racking "chuck chuck" of the engine, your engine need not have been running for hours, yet you can read, peacefully and quietly, with the aid of the steady white electric light. In the early morning you can go out to the barn, turn a button and the stable is flooded with a brilliant light, start your motor to churn, mix feed or

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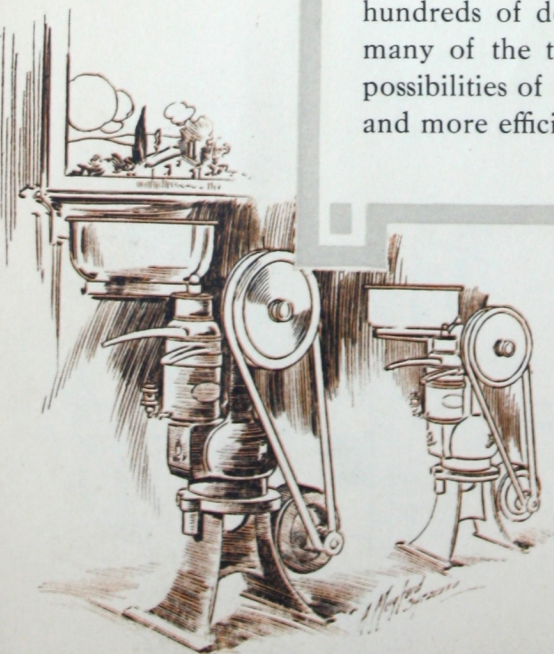
saw wood, and yet you need not first start your engine in order to get your power. *The power is in the storage battery waiting to be utilized.*

If the man of the house finds it necessary to go to the city and the women do not understand how to start the engine, there is no need of the place being left in darkness until the man returns. All that is necessary is that the batteries be charged by running the engine for a few hours before he goes and there will be energy enough stored away to light the house for many, many hours. With other systems this would not be possible, for light can not be had unless the engine is running.

This feature alone should be enough to recommend the Salom System to any thinking man.

The farmer of to-day is not the farmer of ten years ago. The farmer to-day is a business man with immense business interests. His position in life has grown in importance more during the past ten years than at any time in the history of the country. The farmer of to-day is a man of keen, sound business judgment, and he is ever on the alert to install systems by which he can add to the comfort of his home-life or get the greatest production from his farm in less time and with less effort. As a plain business proposition the Salom System should appeal to the modern farmer. In the first place its installation means no great outlay of money, but it will give him a far more economical and satisfactory lighting system than the old plan of using the kerosene lamps and lanterns. In the second place, with the Salom System and a small auxiliary motor, he can save hundreds of dollars in labor and time in the performance of many of the tasks about his place. With a small motor the possibilities of labor saving and of having work done quicker and more efficiently are almost unlimited. Every sort of work,

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from pumping water to milking cows, loading hay, running grinding machines in his work shop, to the lighter domestic tasks, can be done, and every hour gained in this work, especially during the times of harvesting and planting, means many dollars to the farm owner.

For special purposes the Niagara Lead and Battery Company can furnish any size motor to operate direct off the battery where a large amount of power is required for a short period without increasing the size of the gasoline engine or dynamo. The battery supplied is large enough to operate larger motors for a short period and the engine can be run for a longer period and make up for the excess taken from the battery.

For instance, if you require two-horse power from an electric motor for two hours, the battery would supply it and you could run your one-horse power engine for four hours to put the same amount of energy back in the battery.

This makes the Salom System more desirable than a gasoline engine, because if you required three- or four-horse power once or twice a year and only one-horse power for each other day of the year, the cost of operating the four-horse power engine to obtain the one-horse power desired would cost too much for fuel, as well as a larger investment.

Large and small manufacturing concerns are equipping their factories with *electric motors* to operate the different tools and machines, and in doing this they effect an enormous saving in their coal bills, as it is cheaper and easier to operate a power plant to produce the electricity than it is to run line shafts and belts and waste all the power necessary to keep the belts running when the machines are not needed. And the Salom System offers to the farmer the same advantages as are enjoyed by the manufacturers in the city.

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We furnish the new wire-drawn Tungsten lamps for all our systems, which is the greatest improvement in the lamp industry and has been on the market a short time only. It makes the Tungsten lamp just as practical as the old style carbon lamp and only uses about one-third the amount of power to burn as the 16-candle power carbon lamp. The light furnished by this lamp is a pure white light, and has never been equalled by any other form of illumination. Tungsten lamps have been so frail before the wire-drawn lamps were introduced that the cost of lamps was almost prohibitive.

The company can also furnish the necessary wire, sockets and lamps for wiring your house, or other buildings at the cost of \$1.50 per lamp. All that is necessary is to supply a rough drawing of the building, giving the location for the lights.

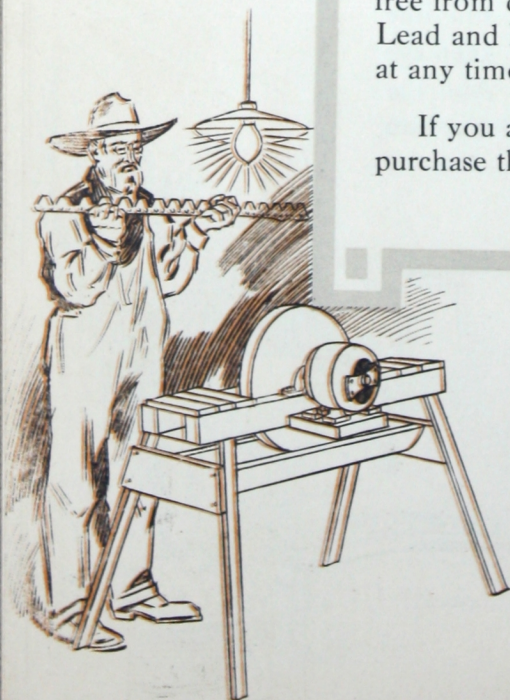
THE COST OF THE SALOM OUTFIT

The cost of the Salom Outfit, considering its service and the saving it effects, is well within the purse of nearly every up-to-date farmer. The cost of the Salom Outfit is based on the fact that a thousand outfits are built at one time. If smaller quantities were built the cost would of course have to be higher. The success of the Salom System, however, has been so great that the price has been fixed on a basis of manufacturing a thousand at a time and the consumer reaps the benefit.

The Salom System complete in every detail is sold for \$298.00. The purchaser deals direct with the factory and every outfit is sold under the positive guarantee of the Niagara Lead and Battery Company—a guarantee that the Salom Outfit is free from defects in material and workmanship and the Niagara Lead and Battery Company agrees to replace without charge, at any time, any part which might prove defective.

If you already have an engine it is not necessary for you to purchase the engine supplied with the outfit. This will make

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a considerable saving in the initial cost. The generator will be furnished complete with switchboard and storage battery and all wiring between the switchboard and battery for \$218.38, and can be belted to any gasoline engine.

If you already have a generator and gasoline engine, it will only be necessary to purchase the switchboard and storage battery, which will be supplied for \$149.38.

We strongly recommend, however, that the outfit be purchased as a whole, as the engine designed and furnished with this system will give far more satisfactory results than a larger engine operating the generator.

THE COST OF OPERATION


The operating cost of the Salom System has been reduced to the minimum. Two gallons of gasoline will operate the engine long enough to completely recharge the battery, and where the battery is not fully discharged, one gallon to one and one-half gallons of gasoline will be sufficient. This means that you can operate the lights in your home for a whole week with the Salom System at a less cost than with kerosene lamps, and you will agree that there is absolutely no comparison as to the satisfaction between the two.

The storage battery furnished with the Salom System, if properly handled, will last for a period of five to six years without any cost of renewal, and at that time a new battery will be furnished in exchange for the old one for \$50. Thus the upkeep of the battery is less than \$10 a year, which makes the adoption of the Salom System perfectly practical and very economical.

The advantages and satisfaction of electric lights in the home and farm buildings cannot be measured in dollars and cents, but in many cases the initial cost of the complete Salom Outfit will be saved the first year because of the extra work that can be done with the auxiliary motor.

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The progressive and up-to-date farmer needs the Salom Lighting and Power System. We claim that it will do more to elevate the home, add more to the contentment and enjoyment of the young folks, as well as every member of the household, than any other like investment that could be made, and we honestly believe that the installation of this system will help more than any one thing to solve the labor problem on the farm.

Investigate our claims for this wonderful invention which marks the beginning of a new era for the farmer—an invention that will furnish the impetus for greater accomplishments. The Niagara Lead and Battery Company will be pleased at all times to furnish any further details regarding the Salom Lighting and Power System. All communications should be addressed to

NIAGARA LEAD AND BATTERY COMPANY
NIAGARA FALLS, N. Y.



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